

What is slope?

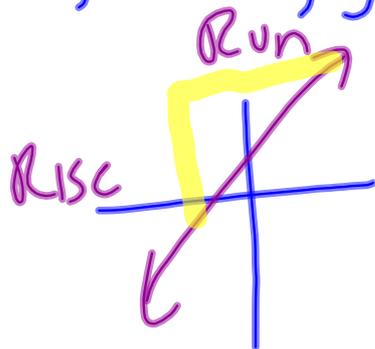
$$y = mx + b$$

↑            ↑  
Slope · Intercept

$$m = \frac{y_1 - y_2}{x_1 - x_2}$$

formula for  
slope from  
2 points

$(x_1, y_1)$   $(x_2, y_2)$



$$\frac{\text{Rise}}{\text{Run}}$$

**ACTIVITY**Developing  
ConceptsInvestigating Slope and  $y$ -intercept

$$y = mx + b$$

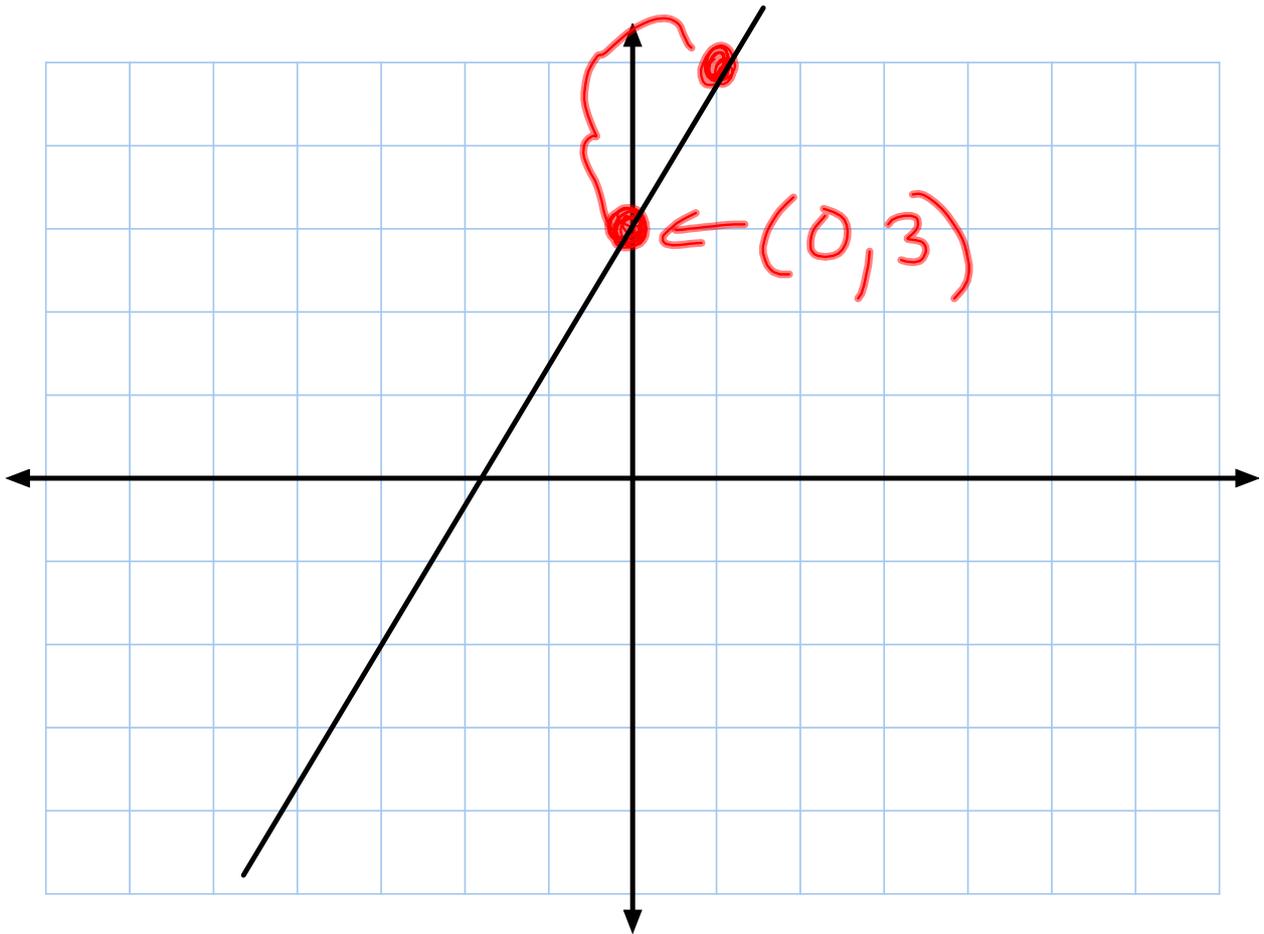
Equation	Points on graph of equation	Slope	$y$ -intercept
$y = 2x + 3$	$(0, 3), (1, 5)$	2	$(0, 3)$
$y = -x + 2$	$(0, ?), (1, ?)$	?	?
$y = \frac{1}{2}x - 4$	$(0, -4), (1, -3.5)$	$\frac{1}{2}$	$(0, -4)$
$y = -2x$	$(0, 0), (1, -2)$	-2	$(0, 0)$
$y = 7$	$(0, 7), (1, 7)$	0	$(0, 7)$

- 1 Copy and complete the table.
- 2 What do you notice about each equation and the slope of the line?
- 3 What do you notice about each equation and the  $y$ -intercept of the line?

$$y = 2x + 3$$

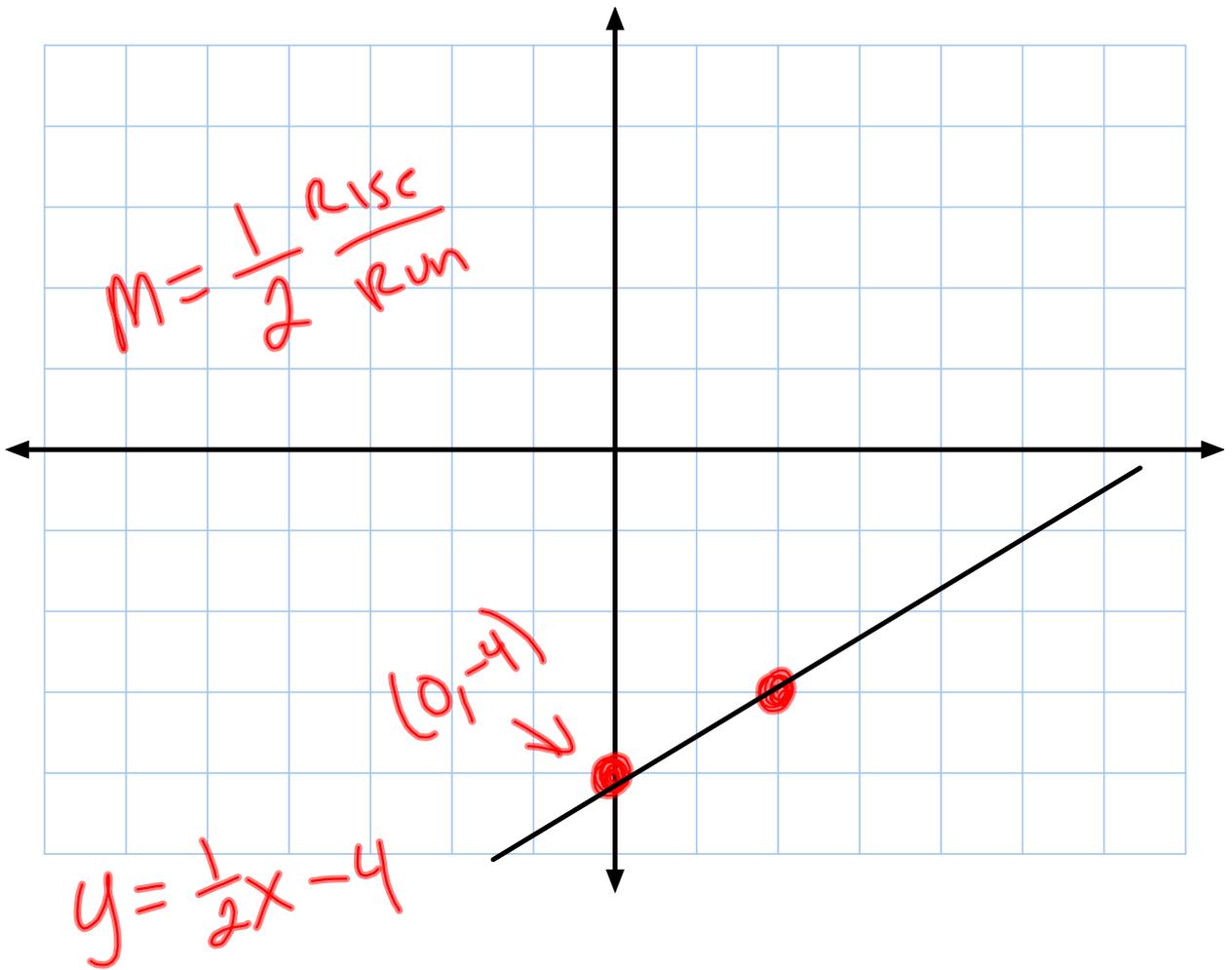
$$y = 2(0) + 3 = 0 + 3 = 3$$

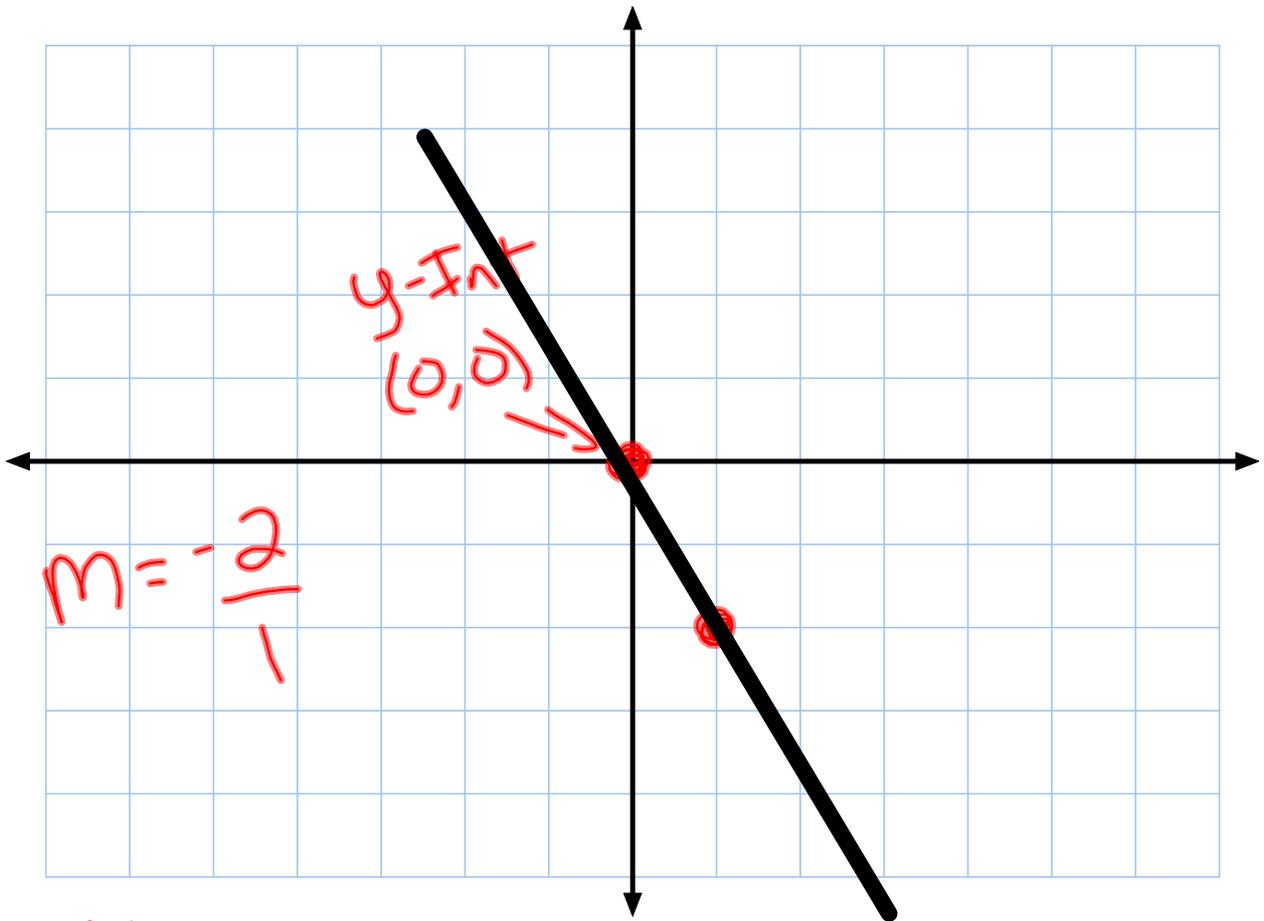
$$y = 2(1) + 3 = 2 + 3 = 5$$



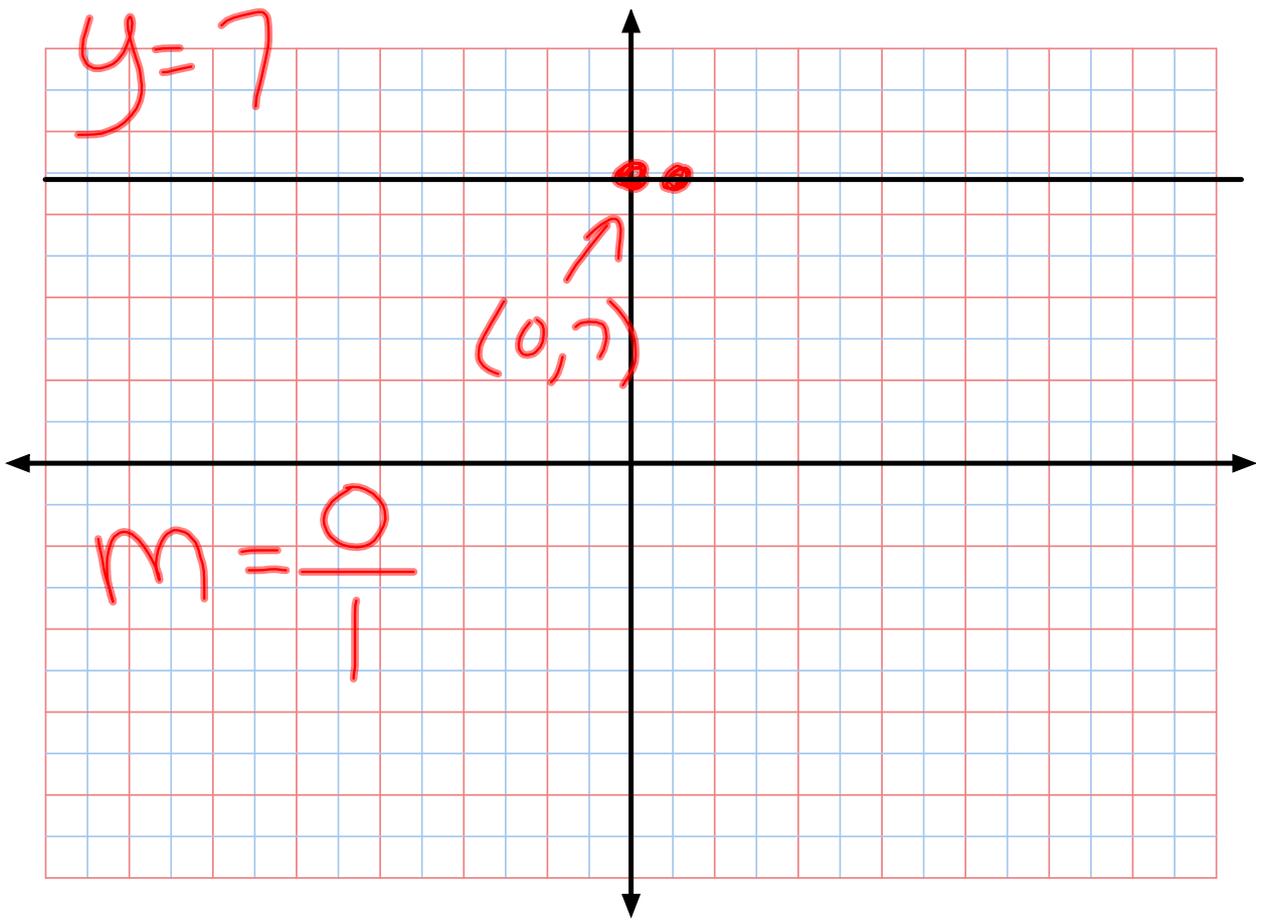
$$y = 2x + 3$$

$$m = \frac{2}{1} \frac{\text{rise}}{\text{run}}$$





$$y = -2x$$



Hw pg 86

# 16-30 even